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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,528	02/13/2002	Seng Tan	1563 (WRIGHT)	8952
30010	7590	05/16/2005	EXAMINER	
AUZVILLE JACKSON, JR. 8652 RIO GRANDE ROAD RICHMOND, VA 23229			ZEMEL, IRINA SOPJIA	
			ART UNIT	PAPER NUMBER

1711

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/075,528

Applicant(s)

TAN, SENG

Examiner

Irina S. Zemel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 22-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 18-21 is/are allowed.
- 6) ☒ Claim(s) 9-14, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) 1-25 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

All rejections not addressed below, including obviousness type double patenting rejections have been withdrawn.

#### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 9-14, and 16-17 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nam, et al., Foam Processing and Cellular Structure of PP/Clay nanocomposites, (hereinafter "Nam").

The reference discloses nanocomposite shapes obtained by a process of saturating preformed nanocomposite sample with CO<sub>2</sub> at high pressures and temperatures above the softening point of the parent polymer, followed by quenching the pressure and temperature.

While the process disclosed in the reference does not address the step by which the preformed sample was obtained, it is believed that the final product, i.e., foamed nanocomposite shape is materially the same as the product obtained by the claimed process because the process disclosed in the reference uses melt blending of composites (achieving dispersion of nanofiller of high uniformity similar to solvent dispersion), utilizes significantly high pressures and temperatures above the T<sub>g</sub> temperature of the parent polymer, and saturates the nanocomposite material with supercritical CO<sub>2</sub> for a prolonged time. The burden is shifted to the applicants to

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provide factual evidence that the claimed product prepared by the claimed process is necessarily and materially different from the final product disclosed in the reference.

The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

### ***Response to Arguments***

Applicant's arguments with respect to claims 9-21 are have been considered but are moot in view of the new ground(s) of rejection.

Applicants should note, however, that majority of the arguments presented (twice) in their response dated 12-17-2005 address the process steps, such as processing time, choice of materials, thickness of materials processed, etc. First of all, no thickness or form of material is claimed in any of the product claims 9-21, thus, the arguments concerning these parameters are irrelevant to the claims 9-21. Second of all, claims 9-21 claim a product, i.e., foam shape, and, thus, determination of patentability is based on the product itself. The patentability of a product does not

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depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Han, X., et al., discloses processing on nanocomposites in extruders with supercritical CO<sub>2</sub>.

### ***Allowable Subject Matter***

Claims 15 and 18-21 are allowable over prior art of record. None of the reference of record disclose the claimed amounts of fillers in anoncomposite foams, or specificall claimed polymeric compositions, or addition of polyhedral oligomeric silsesquixanes.

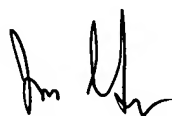
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ISZ



James J. Seidleck  
Supervisory Patent Examiner  
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